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Explanation of alexithymia in terms of personality dimensions in a sample of general population

Mehrnaz Yekta[a]*, Mohammad Ali Besharat[a], Elham Roknoldini[a]

[a] *Department of Psychology, University of Tehran, P. O. Box 14155-6456, Tehran, Iran*

Abstract

This study investigated the relationship of alexithymia with personality dimensions in a sample of general population. 750 participants (325 male, 325 female) completed the NEO Personality Inventory-Revised (NEOPI-R) and the Farsi Version of Toronto Alexithymia Scale-20 (TAS-20). Alexithymia were positively associated with neuroticism and negatively associated with extraversion, agreeableness and conscientiousness. Openness was negatively correlated with externally oriented thinking only. The results support that personality characteristics will influence cognitive and emotional processing in alexithymia.

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Keywords: personality; Alexithymia; Cognitive processing; Emotion regulation

1. Introduction

Alexithymia is known as the inability to process and regulate the excitement-based information (Meganck et al, 2009). A pattern of emotional deficits common in psychosomatic patients termed alexithymia by Sifneos (1973). Alexithymia is characterized by difficulty in identifying, describing, and expressing emotions; a paucity of fantasy life, and a tendency to focus on the concrete details of external events (Bagby & Taylor, 1997; Sifneos, 2000). Alexithymia was originally thought to be a characteristic of individuals experiencing psychosomatic problems (DeGucht & Heiser, 2003), but later its characteristics have come to be associated with a variety of psychiatric conditions (Taylor, Bagby, & Parker, 1997), as with the general population (Salminen, Saarijarvi, Aarela, Toikka, &Kauhanen, 1999). Alexithymia is seen today as a multifaceted and dimensional personality construct (Zimmerman, Rossier, de Stadelhofen, & Gaillard, 2005) reflecting a deficit in the cognitive processing and regulation of emotional states.

According to Costa and McCrae (1987), the evaluation of any new personality construct should include an examination of the relations of the construct with basic dimensions of personality. Five dimensions of personality are extraversion, agreeableness, conscientiousness, neuroticism and openness. (Digman, 1990; John & Srivastava, 1999; McCrae & Costa, 1999). In general, Neuroticism (N) is the predisposition to experience psychological distress as manifest by anxiety, anger, depression, or other negative affectivs. Extraversion (E) includes sociability, liveliness, cheerfulness and the general experience of positive affect. Openness-to-Experience (O) comprises aesthetic sensitivity, intellectual curiosity, need for variety, and non-dogmatic attitudes. Agreeableness (A) consists of trust, altruism, and sympathy; and Conscientiousness (C) encompasses a discipline striving after goals and a strict adherence to principles (Costa & McCrae, 1992).

* Mehrnaz Yekta. Tel.:+989126985725.

E-mail address: mehrnazyekta@gmail.com.

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Although the issue of measurement has now been mostly resolved by the development of the 20-item Toronto Alexityhmia Scale (TAS-20; Bagby et al, 1994), only a few studies have investigated the relationship between alexithymia and basic dimensions of personality. Most of these studies start from the three- or five-factor model of personality. Studies using the three-factor model of personality using of the Eysenck Personality Questionnaire show moderate positive correlations with neuroticism, low correlations with psychoticism, and moderate negative associations with extraversion (Mayer, DiPaolo, & Salovey, 1990; Taylor et al., 1997). Studies using the five-factor model of personality using of the NEO Five Factor Inventory or the NEO Personality Inventory Revised show that substantial amounts of variance in the alexithymia score can be explained by three personality dimensions: low extraversion, low openness to experience and high neuroticism (Bagby et al., 1994; Wise, Mann, & Shay, 1992; Luminet, Bagby, Taylor,& Parker, 1999; Espina, A., 2003; Muller, Gucht, Fontaine, & Fischler, 2004; Buhner, & Ellgring, 2004; Zimmerman et al, 2005; Elfhag, K., Lundh, L. G., 2007; Zimmerman, Genoud, & Reicherts, 2007; besharat, 2008; Nicolò, Semerari, Lysaker, Dimaggio, Conti, D'Angerio, Procacci, Popolo, & Carcione, 2010).

Previous works have questioned whether there is a detectable gender difference in alexithymia (i.e., Heesacker et al., 1999; Wester, Vogel, Pressly, & Heesacker, 2002; Levant, Hall, Williams, & Hasan, 2009). These studies showed men exhibited higher levels of alexithymia. Other results suggested alexithymia have positive relationship with older age and lower levels of education (Mattila, Saleminen., Nummi,& Joukamaa, 2006; Saleminen, Sarijarvi, Aarela, Toikka, & Kauhanen, 1998).

The aim of this study was to examine the relationship between personality dimensions and alexithymia. Based on the previous findings, it was predicted that: 1) there is a positive relation between nerouticisim and alexithymia; 2) there is a negative relation between extroversion and alexithymia; and 3) there is a negative relation between openness and alexithymia.

2. Method

2.1. *Participants and Procedure*

Participants of the present study consisted of 750 volunteers (325 males, M_{age} = 32.68 years, age range: 30-59 years, and 325 females, M_{age} = 29.55 years, age range: 20-55 years) from Tehran general population. The participants from the city of Tehran were invited to take part in this study and were given verbal consent prior to commencement of the study and completed 2 Questionnaires including NEO Personality Inventory-Revised (NEOPI-R; Costa & McCrae, 1992) and Farsi version of Toronto Alexithymia Scale (FTAS; Besharat, 2007a, 2007b) in the presence of the researchers who gave a brief description of the materials and answered questions. Participants were debriefed about the study and thanked for taking part.

2.2. Measures

Revised NEO Personality Inventory (NEOPI-R; Costa & McCrae, 1992)- The personality dimensions of the five factor model were measured using the NEOPI-R inventory (Costa & McCrae, 1992). The NEO PI-R consists of 240 self-report statements presented in a five-point Likert format, ranging from "strongly disagree," scored "1" to "strongly agree," scored "5." The NEOPI-R was specially designed to measure the personality dimensions Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness, each measured by 12 items. The Cronbach α for the domain scales in sample of students of university in Tehran were as follows: Neuroticism, 0.79, Extroversion, 0.73, Openness, 0.54, Agreeableness, 0.61, consciousness, 0.78.

Farsi version of the Toronto Alexithymia Scale (FTAS-20; Besharat, 2007a, 2007b)- The Toronto Alexithymia Scale (TAS-20; Bagby et al., 1994) is a 20-item self-report measure. Each item is rated on a five-point Likert scale ranging from 1 ‘’strongly disagree’’ to 5 ‘’strongly agree’’. It provides a total alexithymia score and also three sub-scales rating to Difficulty Identifying Feelings, Difficulty Describing Feelings, and Externally Oriented Thinking. Cronbach alpha for the subscales were 0.82, 0.75, 0.72. The TAS-20 has demonstrated good psychometric properties (Taylor et a., 1997, 2003; Palmer, Gignac, Manocha, & Stough, 2004). Adequate psychometric properties of the scale have reported for a sample of 587 Iranian undergraduate students (Besharat, 2007a, 2007b).

3. Results

Pearson correlation coefficients showed that alexithymia is positively correlated with neuroticism and negatively correlated with extroversion and openness ($P < 0.001$; Table 1).

Table 1. correlation among variables

variables	Difficulty Identifying Feeling	Difficulty Describing Feeling	Externally Oriented Thinking
Neuroticism	0.67	0.52	0.08
Extroversion	-0.43	-0.40	-0.41
Openness	-0.05	-0.02	-0.30
Agreeableness	-0.36	-0.32	-0.13
Consciousness	-0.51	-0.40	-0.10

*P<o.o1

Regression analyses with aleithymia scales as the dependent variables, where personality dimensions were entered simultaneously into the equation, revealed that personality dimensions account for 49% of the variance in difficulty identifying feelings ($F = 84.50$, $P < 0.001$). Neuroticism ($t = 11.538$, ß = 0.599) and consciousness ($t = -4.132$, ß = -0.207) are significantly accounted for variance of difficulty identifying feeling. The results also showed that dimensions of personality account for 34% of the variance in difficulty describing feelings ($F = 46.25$, $P < 0.001$). Neuroticism ($t = 6.866$, ß = 0.403) is significantly accounted for variance of difficulty describing feelings. The results showed that dimensions of personality account for 13% of the variance in externally oriented thinking ($F = 13.46$, $P < 0.001$). Agreeableness ($t = -7.458$, ß = -0.337) is significantly accounted for variance of externally oriented thinking.

Table 2. Regression analysis and analysis of variance (ANOVA) of all research variables

Difficulty in identifying feeling	**F***	**R**	**R2**	**SE**	**ß**	**t***
	84.50	**0.706**	**0.498**	**3.78**		
Neuroticism					0.599	11.538
Extroversion					-0.056	-1.136
Openness					-0.050	-1.448
Agreeableness					-0.020	-0.479
Consciousness					-0.207	-4.132
Difficulty in describing feeling	**F***	**R**	**R2**	**SE**	**ß**	**t***
	46.25	**0.580**	**0.341**	**2.69**		
Neuroticism					0.403	6.866
Extroversion					-0.081	-1.480
Openness					-0.006	-0.150
Agreeableness					-0.075	-1.565
Consciousness					-0.108	-1.958
External oriented thinking	**F***	**R**	**R2**	**SE**	**ß**	**t***

	13.46	**0.366**	**0.134**	**3.72**		
Neuroticism					0.060	0.875
Extroversion					-0.121	-1.893
Openness					-0.337	-7.458
Agreeableness					-0.077	-1.395
Consciousness					-0.035	-0.543

Total alexithymia	**F***	**R**	**R2**	**SE**	**ß**	**t***
	63.59	**0.640**	**0.410**	**7.04**		
Neuroticism					0.452	8.316
Extroversion					-0.057	-1.111
Openness					-0.103	-2.835
Agreeableness					-0.057	-1.283
Consciousness					-0.157	-3.045

*P< 0/01

Hierarchical multiple regression were computed to determine the relation between alexithymia and gender, age, & level of education; and the contribution of them as moderator variables in relation of personality and alexithymia. The results showed that alexithymia is negatively associated with level of education, and there is no significant sex difference. Findings revealed similarities between males and females on research questions. The results showed that these three variables (age, gender, education) have no affect on the relation of alexithymia and dimensions of personality.

4. Discussion

The present study revealed that alexithymia has positive relationship with neuroticism as well as negative relationship with extroversion and openness. These findings are consistent with those of previous studies in which alxithymia were found to be associated with dimensions of personality (Bagby et al., 1994; Wise & Mann, 1994; Wise et al, 1992; Luminet et al, 1999; Espina, A., 2003; Muller et al, 2004; Zimmerman et al, 2005; Elfhag et al, 2007; Zimmerman et al, 2007; Besharat, 2008; Nicole et al, 2010). As one consequence, individuals scoring high on neuroticism as same as Alexithymic individuals is positively associated with the inability to cope with stressful situations, experiencing negative emotions. These results are consistent with the conception of Lane and Schwartz (1987) who consider that alexithymic individuals are prone to experience undifferentiated unpleasant emotional arousal as they avoid reflecting on and generating symbolic representations of experience. As the results showed, extroversion associated negatively with alexithymia; this finding is consistent with previous studies (Elfhag et al,2007; Besharat, 2007; Taylor et al,2003;Picardi et al, 2005; Luminet, 2007; wise et al, 2004). Contrary to Zimmermann et al (2005), we do find a negative relation between alexithymia and the tendency to experience positive emotions.

Surprisingly and contrary to previous studies (Bagby et al., 1994; Luminet et al., 1999), we found negative association between alexithymia and openness. Surprisingly, in our normal population there is no significant association between alexithymia and age and gender, in contrary to previous studies (salminen, 1998; matila et al, 2006; moriguchi et al, 2007). Finally, the negative relations obtained between alexithymia and education is consistent with the view that alexithymic individuals have less interest for education (Salminen et al., 1998).

The present findings have some limitations, however. Simple correlations among variables and restriction of research population in generalization of findings are limitations of this study which must be considered.

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